CLAIMS

I claim:

1.   A method comprising:

packetizing data framed as an inbound Time Division Multiplexing (TDM) stream as an Ethernet packet having a header which includes information which indicates an appropriate time at which to write the data into an outbound TDM stream.

2.   The method of Claim 1 wherein packetizing includes:

writing a TDM frame into a first field of an Ethernet frame; and

writing information which indicates an appropriate time to insert the data into an outbound TDM stream into a second field of an Ethernet frame.

3.   The method of Claim 1 wherein packetizing includes:

writing the inbound TDM stream to a first buffer; and

writing the inbound TDM stream to a second buffer while at least one TDM frame stored in the first buffer is written into the Ethernet packet.

4.   A method comprising:

accepting a first TDM stream into a switch having an Ethernet backplane, the first TDM stream including a plurality of TDM frames;

writing a TDM frame into an Ethernet frame;

sending the Ethernet frame to a destination of the TDM frame;

extracting the TDM frame from the Ethernet frame; and

sending a second TDM stream, including the TDM frame, from the switch.

5.   The method of Claim 4 wherein multiple TDM frames are written into the Ethernet frame and the TDM frames are extracted from the Ethernet frame after sending the Ethernet frame to the destination of the TDM frame.

6.   The method of Claim 4 further comprising:

writing the first TDM stream to a first buffer; and

writing the first TDM stream to a second buffer while at least one TDM frame stored in the first buffer is written into the Ethernet frame.

7.   The method of Claim 4 further comprising:

writing at least one of the extracted TDM frames to a first buffer; and

writing at least one of the extracted TDM frames to a second buffer while at least one of the extracted TDM frames stored in the first buffer is included in the second TDM stream.

1   8.   The method of Claim 4 further comprising:

2   writing information which identifies the TDM frame into the Ethernet frame; and

3   writing information which signifies the destination of the TDM frame into the

4 Ethernet frame.

1   9.   The method of Claim 8 wherein the TDM frame is written into a first field

2 in the Ethernet frame and the destination information and identifying information are

3 written into a second field in the Ethernet frame.

1   10.   A switch with an Ethernet backplane, comprising:

2   a bus; and

3   at least one line card connected to the bus, each line card including:

4   circuitry to write TDM frames from an incoming TDM stream into Ethernet

5   frames, circuitry to send the Ethernet frames to a destination of the TDM frames;

6   circuitry to extract the TDM frames from the Ethernet frames once the Ethernet

7   frames arrive at the destination of the TDM frames; and

8   circuitry to send an outgoing TDM stream including the extracted TDM frames.

1   11.   The switch of Claim 10 wherein each line card further includes:

2 a first buffer and a second buffer to double buffer the incoming and outgoing TDM data.

1   12.   The switch of Claim 10 wherein each line card further includes:

2   circuitry to write information which identifies the TDM frames into the Ethernet

3 frames, and

4   circuitry to write information which signifies the destination of the TDM frames

5 into the Ethernet frames.

1   13.   The switch of Claim 12 wherein each line card further includes:

2   circuitry to write the TDM frames into a first field in the Ethernet frame, and

3   circuitry to write the destination information and identifying information into a

4 second field in the Ethernet frame.